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the liquid composition, selected from the group consisting of hydrogen peroxide, an organic peroxide, and combinations thereof,

(iv) an effective amount of a polymerization promoter; and
a compatible solvent or solvents, and

(b) grafting the liquid composition on the substrate.

REMARKS

After entry of the above-provided amendments, claims 1-13 and 34-56 are pending. The Examiner has previously removed claims 13 and 34-36 from consideration, pursuant to 37 CFR 1.142(b) as directed to non-elected subject matter. Reconsideration of the *provisional* Restriction Requirement, and withdrawal of all other objections and rejections made in the Office Action are respectfully requested, based on the provided amendments and the following remarks. It should be noted that claims 34-35 are amended, and new claims 37-56 added, to conform to the modification of the Restriction Requirement discussed during a telephone interview with the Examiner.

THE RESTRICTION REQUIREMENT

As noted by item 1 of the Office Action, a Restriction Requirement was made. The restriction groups were set forth as follows.

Group I: Claims 1-12, directed to graft-coated substrates.

Group II: Claims 13-25, directed to a process for modifying a polyethylene substrate (by graft coating).

Group III: Claim 36, directed to a liquid composition.

The Office Action states, at page 3, item 6, that during a telephone conversation of 9-11-2002, Applicants' attorney, Paul Higgins, made a *provisional* election, with traverse, to prosecute the claims of Group I, claims 1-12. This election was made without prejudice to Applicants' right to prosecute the invention of Groups II-IV in any continuation or divisional patent application.

The Restriction Requirement was then formally set forth in the Office Action. Applicants respectfully direct the Examiner's attention to the fact that pending claims 26-33 are not of record in the Office Action as belonging to any of Groups I, II or III. It is respectfully requested that all pending claims be accounted for and made of record as part of the restriction scheme, after resolution of the following traversal of the Restriction Requirement.

Applicants' wish to express their appreciation for the courtesy of a further telephone interview provided by the Examiner on March 5, 2003, with Applicants' associate attorney, Laurence Manber. Mr. James J. Seidleck, S.P.E., also participated. During that interview, it was agreed, *inter alia*, that the Examiner would give favorable consideration to modifying Restriction Group I to include both product (original claims 1-12) and product-by-process claims (original claims 34-35), i.e., graft coated substrates and graft coated substrates produced by the inventive method. Applicants respectfully urge that the Restriction Requirement be reconsidered, because the Examiner has the discretion to prosecute all of the pending claims in a single patent application. In fact, "[I]f the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions." (Emphasis added; Manual of Patent Examining Procedure, v8 ("MPEP") § 803, second paragraph).

It is respectfully submitted that a search of the art that is directed to the invention of all pending claims, and especially, the claims of Group I, defined to include claims 34 and 35, can be made without a serious burden on the Patent and Trademark Office. This point has, in fact, been demonstrated by the results of the Examiner's first search, made of record in the Office Action. In particular, the Examiner's search has uncovered U.S. Patent Nos. 4,170,664, 4,377,010, 5,039,549, 5,215,822 and 6,358,557. Four of the five patents asserted by the Examiner are primarily directed to methods and/or products produced by a method. Thus, the outcome of the Examiner's search confirms that there would be no undue burden on the Examiner to consider the patentability of all, or most of, the pending claims in the present patent application.

For example, U.S. Patent No. 4,170,664 describes and claims, "[a] process for the production of cross-linked resilient automotive body components" and "irradiated products" of that process.

U.S. Patent No. 5,039,549 describes and claims, "[a] continuous method of treating an ultrahigh molecular weight, high strength polyolefin . . . " and "[a] composite containing a fiber produced by the method . . . "

U.S. Patent No. 5,215,822 describes and claims, "[a] method of controlling the impermeability of an organic polymer film to gases . . . "

U.S. Patent No. 6,358,557 describes and claims, "[a] method of coating a substrate . . . "

If the Examiner is unwilling to allow all of the pending claims into prosecution, it is respectfully requested that the Examiner include product by process claims in the set of Group I claims under consideration. This would include claims 34-35, suitably amended to depend from claim 1, et seq.

During the telephone interview noted *supra*, the Examiner and Mr. Seidleck stated that

adding claims 34-35 to Group I would most likely receive favorable consideration. For this reason, claims 34-35 are now amended to conform to that outcome, and new claims 37-56 are added. New claims 37-55 depend from either claim 34 or claim 1, and more particularly set forth that which Applicants consider to be their invention. Claim 56 is an independent product-by-process claim.

For all of these reasons, reconsideration of the Restriction Requirement and Examination of the presented claims is respectfully requested.

If, for any reason, the claims as presented herein are not in conformity with the Examiner's ultimate determination of the Restriction Groups, the Examiner is respectfully requested to telephone Applicants' undersigned attorney, so that a supplemental amendment, with conforming claims, can be promptly submitted, in the interest of expeditious and efficient prosecution.

AMENDMENTS TO THE SPECIFICATION

The Examiner objected to the specification for having stray photocopy marks and other deficiencies. This problem was discussed during the telephone interview of March 5, 2003, noted *supra*, and it appears that the Examiner received a photocopy of the specification that was poorly reproduced by the Patent and Trademark Office. In the interest of expeditious prosecution, Applicants enclose herewith a substitute copy of the application as originally filed, with no changes or amendments.

AMENDMENTS TO THE CLAIMS

Applicants have amended claims 1-3 and 34-35 in order to more clearly set forth that which Applicants consider to be their invention. In particular, claims 34-35 were formerly dependent on claim 13, since withdrawn from prosecution by the Examiner under 37 CFR 1.142. Claim 34 is now amended to include process steps analogous to those recited by the claims of non-elected restriction Group II. In addition, new claims 37-53 depend from claims 1 or 34.

It is urged that no new matter has been added, and that all of the claim amendments and the new claims are fully supported by the original claims and the specification. For example, the term, "fire retarding" has been replaced throughout the claims by the term, "flame retardant" that is employed in the specification. Both terms were intended to have the same meaning, i.e., referring to an agent that, when added to an otherwise combustible material, increases the temperature and/or the time required for that material to begin burning, under thermal conditions favoring ignition. Conforming the term to "flame retardant" throughout the claims simply provides greater clarity.

New claims 37-56 are substantially analogous to original claims 13-33. In addition, the

specification and Examples provide support for the details of components and compositions as claimed, e.g., starting at paragraph 62 of the instant application as published.

THE CLAIMS ARE NOVEL OVER THE CITED ART

Before providing a detailed discussion of the art rejections and Applicants' responses, the Examiner's attention is respectfully directed to the March 5, 2003 telephone interview with Applicants' associate attorney, as referenced *supra*. During that interview, the distinction between a coated substrate that includes a flame retardant in the graft coating, and an object that is generally "heat resistant" was discussed. The Examiner agreed to consider this distinction in evaluating those claims which require a flame retardant in the graft coating.

New claim 56, which recites a graft coated substrate produced by the recited process, is also respectfully urged to be novel over the art made of record, based upon the specific components of the liquid composition employed to prepare the graft coated substrate.

At item 10 of the Office Action, the Examiner has alleged that Wyman, et al. U.S. Patent No. 5,215,822 ("Wyman") anticipates claims 1-2, 8-9 and 10-11 under 35 U.S.C. § 102(b). It is noted that original claims 3 and 12 were not rejected over this reference. The Examiner stated that, Wyman discloses a polymer film with a polysilicone coating, where the coating is grafted onto the polymer film" and the coatings have surface tensions in excess of 60 dynes/cm." The Examiner then concluded that since Wyman coats polymer films, this "suggests" the coating of curved or planar sheets.

Applicants respectfully disagree. A single reference must identically describe each and every element of the claimed invention, Studiengesellschaft Kohle v. Dart Indus., Inc., 726 F.2d 724, 220 USPQ 841 (Fed. Cir. 1984). This requirement is nicely summarized, by the Manual of Patent Examining Procedure (MPEP"), electronic version 8.1. In particular, the MPEP explains, in part, that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). (MPEP Section 2131, page 2100-69).

In addition, the initial burden is upon the Examiner to supply the factual basis supporting a rejection of a patent application, including a rejection based on anticipation. *See, e.g., In re*

Skinner, 2 USPQ 2d 1788, 1788-89 (B.P.A.I. 1986; and In re Oetiker, 977 F.2d 1443, 24 USPQ 2d 1443, 1447 (Fed. Cir. 1992). Claim 1 recites that the graft coating includes, "a flame retardant." This element has been copied from claim 3, that was not previously rejected by the Examiner over this reference. For this reason, it is now believed that this ground of rejection is now obviated as to all of the pending claims.

At item 12 of the Office Action, the Examiner stated that claims 8 and 9, only further limit the pipe articles in claim 7. Since pipe articles have not been chosen in Wyman's invention, the further limitation of the pipe articles bears no patentable weight . . .

Applicants' do not fully understand the meaning of the rejection or analysis intended by item 12 of the Office Action. It seems that the Examiner has concluded that, even with the failure of Wyman to disclose graft coated pipe, that claims 8 and 9 are anticipated by the Wyman disclosure. Applicants' do not believe that this is the correct interpretation of 35 U.S.C. § 102.

To the contrary, a rejection under any part of 35 U.S.C. § 102 requires that all elements of the rejected claim be found within the four corners of the cited reference. Claims 7, 8-9 must be read with all of the limitations the antecedent claim(s). Thus, claims 7, and 8-9 are novel for all of the reasons that claim 1 is novel. Simply by way of example, claim 7 properly includes all of the following elements:

[1] A graft coated substrate, the substrate comprising polyethylene, and a graft coating covalently bonded thereto, wherein said graft coating comprises a non-polyethylene polymer or copolymer and a flame retardant [7] that is formed into an article of manufacture selected from the group consisting of a pipe or tube, a curved or planar sheet, a beam, a board, a rod or shaft, a container for solids or fluids, and combinations thereof.

In addition, claims 8 and 9 require that the substrate of claim 7 be selected from particular types of pipe, providing yet another element that is urged to be patentably distinct from the Wyman description. If this ground of rejection has been misunderstood, Applicants' respectfully reserve the right to provide a further response to this point, if necessary, wherever it has been raised in the Office Action.

At item 13 of the Office Action (page 6), the Examiner further stated that "it is the examiner's position that Wyman's coated substrate would inherently possess the applicant's claimed heat resistance properties."

Applicants' respectfully traverse. Wyman describes an organic polymer film that is graft coated with a siloxane. No mention is made by Wyman of a fire retardant being present in the Wyman film, or of the Wyman film being resistant to ignition. No reference or fact is of record to support the Examiner's conclusion. The Examiner is respectfully requested to make a reference, or fact, of record supporting the conclusion that fire retardancy is somehow described or inherent

in the Wyman graft coated polymer film. If the Examiner's conclusion is based on personal knowledge, the Examiner is respectfully requested to make his personal knowledge of record in the form of a Declaration under 37 C.F.R. § 1.132.

In addition, as noted *supra* Applicants' respectfully direct the Examiner's attention to claim 1, et seq. requiring the express element of a "fire retardant." Further, the Examiner has not defined the property of a material being, "heat resistant." It is urged that, in general usage, a material that is resistant to heat is not necessarily resistant to fire or flame. The instant specification teaches that claimed graft coated substrate is fire or flame resistant, as defined therein.

The claims depending from claim 1 are respectfully submitted to be novel over Wyman for all of the reasons that claim 1 is novel. The added elements provided by the claims depending from claim 1 simply add more points of novelty to those claims, relative to claim 1.

For all of these reasons, it is respectfully requested that all rejections of the claims under 35 U.S.C. §102(b), over Wyman, be reconsidered and withdrawn.

At item 14 of the Office Action, the Examiner has alleged that Spenadel, et al. U.S. Patent 4,170,664 ("Spendadel") anticipates claims 1-3 and 10-12 under 35 U.S.C. 102(b). It is noted that claims 4-9 are not included in this rejection. The Examiner stated that:

Spenadel discloses a process for forming automotive body components by crosslinking a surface coating onto a substrate..., where the substrate polymers include polyethylene momopolymers and copolymers...and the surface coatings include pigmented acrylic, polyurethane, and epoxy coatings which graft onto the substrates.

Applicants respectfully disagree. As noted above, the law requires that, in order to anticipate, all elements of the invention as claimed must be found in the cited reference.

Claim 1 recites that the graft coating includes, "a flame retardant." Nowhere does Spenadel describe or suggest a substrate with a grafted coating that also includes a fire retarding agent. At best, Table I of Spenadel mentions resistance to "heat sag" as defined by that table, as a desirable property of an automotive polymer.

The Spenadel patent document is not believed to contain or suggest any of the terms, "fire," "flame," "combustion," "phosphorous," or "phosphonate" which would indicate any sort of description that might have led the artisan to look to Spenadel for guidance on adding flame retardants to a graft coating. If the Examiner is able to point out the presence of such description in Spenadel, she is respectfully invited to make this point of record.

At item 16, the Examiner asserted that "heat resistance" is inherent, given the nature of the Spenadel description. As noted above for the response to the rejection over Wyman, "heat

resistance" does not imply that Spenadel describes or suggests a polymer composition, such as a coating that is grafted onto a substrate, and that includes a fire retarding agent.

The claims depending from claim 1 are respectfully submitted to be novel over Syodelor for all of the reasons that claim 1 is novel. The added elements provided by the claims depending from claim 1 simply add more points of novelty to those claims, relative to claim 1.

For all of these reasons, it is respectfully requested that all rejections of the claims under 35 U.S.C. §102(b), over Spenadel, be reconsidered and withdrawn.

At item 17 of the Office Action, the Examiner has alleged that Fydelor, et al. U.S. Patent No. 4,377,010 ("Fydelor") anticipates claims 1 and 6-9 under 35 U.S.C. § 102(b). The Examiner has stated that, "Fydelor discloses a surgical device comprising a polyolefin grafted with hydrophilic thermoplastic copolymer at the surface."

At item 18 of the Office Action, the Examiner stated that Fydelor describes graft coated films of acrylic on polyethylene substrate, and added that, "[t]he materials are used to form straight or curved tubes, as heart valves and patches." The Examiner concluded that, "[o]ne skilled in the art would clearly envision the formation of single wall or multi-layered pipes from the mention of tubes and tube coverings."

Applicants respectfully disagree. As noted above, the law requires that, in order to anticipate, all elements of the invention as claimed must be found in the cited reference.

Claim 1 recites that the graft coating includes, "a flame retardant." Nowhere does Fydelor describe or suggest adding a flame retardant to a coating that is grafted onto a substrate or that the graft coating is somehow ignition resistant. The claims are respectfully urged to be novel over Fydelor for all of the reasons given above in the responses to the rejections made over the Wyman and Spenadel patents. The claims depending from claim 1 are respectfully submitted to be novel over Fydelor for all of the reasons that claim 1 is novel. The added elements provided by the claims depending from claim 1 simply add more points of novelty to those claims, relative to claim 1.

For all of these reasons, it is respectfully requested that all rejections of the claims under 35 U.S.C. §102(b), over Fydelor, be reconsidered and withdrawn.

At items 19-21 of the Office Action, the Examiner stated that claims 1 and 4-9 are anticipated under 35 U.S.C. §102(b) over Nguyen (this is apparently U.S. Patent No. 5,039,549), as evidenced by CRC Press. The Examiner reasons that Nguyen "discloses the treatment of ultrahigh molecular weight, high strength polyolefins by coating the surface with a monomer solution and grafting the coating onto the polyolefin." The Examiner then reasons that the "films and tapes" described by Nguyen "suggests" the formation of curved or planar sheets as recited by the pending claims. The Examiner relies upon the CRC Press, which apparently refers to the Chemical Rubber Company handbook of tabulated data on various polymer compounds for the

Claim 1 recites that the graft coating includes, "a flame retardant." Nowhere does Nguyen describe or suggest adding a flame retardant to a coating that is grafted onto a substrate or that the graft coating is somehow ignition resistant. The claims are respectfully urged to be novel over Nguyen for all of the reasons given above in the responses to the rejections made over the Wyman and Spenadel patents. The claims depending from claim 1 are respectfully submitted to be novel over Nguyen for all of the reasons that the invention of claim 1 is novel. The added elements provided by the claims depending from claim 1 simply add more points of novelty to those claims, relative to claim 1.

Turning to the rejection found at **item 21**, the Examiner is respectfully referred to the response to the analogous rejection, as discussed in more detail for the Wyman rejection, *supra*. In summary, these claims must be read with all of the limitations the antecedent claim(s). Thus, claims 7, and 8-9 are novel for all of the reasons that claim 1 is novel.

For all of these reasons, it is respectfully requested that all rejections of the claims under 35 U.S.C. §102(b), over Nguyen and/or the CRC Handbook, be reconsidered and withdrawn.

At items 22-24 of the Office Action, the Examiner stated that claims 1 and 4-9 are anticipated under 35 U.S.C. §102(e) over Wang et al. (this is apparently U.S. Patent No. 6,358,557), "Wang." The Examiner reasons that the Wang materials are grafted onto catheters or tubes and that the artisan, "would clearly envision the formation of single wall straight pipes." The Examiner also reasons that Wang discloses, "materials preferred by the applicant" for graft coating a substrate.

Applicants respectfully disagree. As noted above, the law requires that, in order to anticipate, all elements of the invention as claimed must be found in the cited reference.

Claim 1 recites that the graft coating includes, "a flame retardant." Nowhere does Wang describe or suggest adding a flame retardant to a coating that is grafted onto a substrate or that the graft coating is somehow ignition resistant. The claims are respectfully urged to be novel over Fyodelor for all of the reasons given above in the responses to the rejections made over the Wyman and Spenadel patents. The claims depending from claim 1 are respectfully submitted to be novel over Wang for all of the reasons that claim 1 is novel. The added elements provided by the claims depending from claim 1 simply add more points of novelty to those claims, relative to claim 1.

For all of these reasons, it is respectfully requested that all rejections of the claims under 35 U.S.C. §102(e), over Wang, be reconsidered and withdrawn.

THE CLAIMS ARE NONOBVIOUS OVER THE CITED ART

At items 26-27 of the Office Action, the Examiner stated that claim 12 is rejected as allegedly obvious under 35 U.S.C. §103 over Wyman, *supra*. The Examiner reasons that "it

would have been *prima facie* obvious to vary the amount of carboxylic acid present in the coating to vary surface tension, thus optimizing wetting and adhesion properties of the coating."

Applicants respectfully disagree. The Federal Circuit has explained the requirements for maintaining a *prima facie* assertion that a claimed invention is obvious in great detail. The Examiner is respectfully referred to the MPEP, v8, electronic version, at Sections 2142-2143, where the legal requirements are nicely summarized. In the interest of efficient prosecution, those section of the MPEP are incorporated by reference herein. In particular, the Examiner's attention is respectfully directed to MPEP Section 2143.03, which explains that:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

In addition, it is basic claim practice that a dependent claim, by its very nature, incorporates all of the limitations of the antecedent claim. Thus, claim 12 depends from claim 1. In order to properly compare the elements of claim 12 to a proposed art reference, all of claim 12 must be considered as a whole.

Thus, claim 12, when properly considered, reads as follows.

[1] A graft coated substrate, the substrate comprising polyethylene, and a graft coating covalently bonded thereto, wherein said graft coating comprises a non-polyethylene polymer or copolymer and a flame retardant [12] that has a surface energy of at least 80 dynes/cm².

It is respectfully urged that no fact or reference of record shows that Wyman would have taught or would have suggested to the ordinary artisan to provide a graft coating on a substrate that comprises polyethylene, where the graft coating comprises a non-polyethylene polymer or copolymer and a flame retardant and that has a surface energy of at least 80 dynes/cm².

In evaluating the type of guidance that Wyman might have provided to an ordinary artisan, before the priority date of the instant patent application, it is helpful to consider what is taught by that reference. Wyman teaches specialized grafted coatings designed to render organic polymer films less permeable to gases such as oxygen, aroma, flavors, etc. Wyman employed a monomer mixture containing siloxane monomer with carboxylic acid, combined with electron beam radiation. For this reason, it is respectfully urged that the ordinary artisan, seeking to solve the problem of providing a graft coating having a fire retardant component, that is to be covalently

grafted to a polyethylene-containing substrate, would simply not have looked to Wyman for guidance.

If the Examiner has a reference or references that would have taught or suggested combining the description of Wyman with one or more other references that provide that elements missing from Wyman, the Examiner is respectfully invited to make such reference of record. If the rejection is based upon the Examiner's personal knowledge, she is respectfully invited to make that knowledge of record in a declaration under 37 C.F.R. § 1.132.

Absent such evidence of record, as a matter of law, it is submitted that no *prima facie* assertion of obviousness over Wyman has been stated. For this reason, the burden remains on the Examiner to come forward with the required evidence and reasoning.

For all of these reasons, it is respectfully requested that the rejection under 35 U.S.C. §103, over Wyman, taken alone or in any combination, be reconsidered and withdrawn.

At **items 28-31** of the Office Action, the Examiner stated that claims 10- 12 are rejected as allegedly either anticipated under 35 U.S.C. §102(b) and/or obvious under 35 U.S.C. §103 over Nguyen, *supra*. The Examiner has alleged that:

because the reference discloses all the limitations of the claims except the heat resistance and surface energy properties of the coated substrate, the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render the claimed invention obvious.

The Examiner then reasons that this is sufficient to shift the burden to Applicants to provide, "clear evidence" to the contrary. The Examiner continues (at **item 30**) by reasoning that the coated substrate of Nguyen's invention would also inherent possess the claimed heat resistance properties.

The Wyman reference is also mentioned (at **item 31**) as providing description of controlling the amount of acidic monomer on Nguyen's substrate to optimize the surface energy of a coating crafted onto a substrate.

Applicants respectfully disagree. As discussed in detail above, all dependent claims must be evaluated together with all of the elements of the antecedent claim or claims. Claims 10-12 all depend from claim 1, and therefore must include the elements of claim 1. It is respectfully submitted that nowhere in Nguyen and/or Wyman taken in any combination, would the ordinary artisan have found all of the elements of claim 1 described or suggested. Thus, these references would have failed to teach or suggest a "graft coated substrate that comprises polyethylene, and a graft coating covalently bonded thereto, wherein the graft coating comprises a non-polyethylene polymer or copolymer and a flame retardant."

For example, Nguyen describes a continuous method of treating an ultrahigh molecular

weight, high strength polyolefin to improve adhesive bonding of the polyolefin to a resin by soaking the substrate in a range of solvents or by photografting.

It is urged that no mention is made by Nguyen and/or Wyman of a fire retardant being present in a graft coating, or of a graft coating that imparts resistance to ignition. No reference or fact is of record to support the Examiner's conclusion. The Examiner is respectfully requested to make a reference, or fact, of record supporting the conclusion that fire retardancy is somehow described or inherent in the Nguyen and/or Wyman graft coated polymer film. If the Examiner's conclusion is based on personal knowledge, the Examiner is respectfully requested to make her personal knowledge of record in the form of a Declaration under 37 C.F.R. § 1.132.

For all of these reasons, it is respectfully urged that no *prima facie* allegation of obviousness has been made out by this rejection, and reconsideration and withdrawal of the rejection is respectfully requested.

At **items 32-35** of the Office Action, the Examiner stated that claims 10- 12 are rejected as allegedly either anticipated under 35 U.S.C. §102(b) and/or obvious under 35 U.S.C. §103 over Fydeler, *supra*. The Examiner has alleged that:

because the reference discloses all the limitations of the claims except the heat resistance and surface energy properties of the coated substrate, the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render the claimed invention obvious.

The Examiner then reasons that this is sufficient to shift the burden to Applicants to provide, "clear evidence" to the contrary. The Examiner continues (at **items 33-34**) by reasoning that the coated substrate of Nguyen's invention would also inherently possess the claimed heat resistance and surface energy properties.

The Wyman reference is also mentioned (at **item 35**) as providing description of controlling the amount of acidic monomer on Nguyen's substrate to optimize the surface energy of a coating crafted onto a substrate.

Applicants respectfully disagree. As discussed in detail above, all dependent claims must be evaluated together with all of the elements of the antecedent claim or claims. Claims 10-12 all depend from claim 1, and therefore must include the elements of claim 1. It is respectfully submitted that nowhere in Fydeler and/or Wyman taken in any combination, are the elements of claim 1 described or suggested. Thus, these references simply would have failed to teach or suggest to the ordinary artisan a, "graft coated substrate that comprises polyethylene, and a graft coating covalently bonded thereto, wherein the graft coating comprises a non-polyethylene polymer or copolymer and a flame retardant."

For example, Fydeler describes graft coating of biocompatible surgical devices with what

appears to be a more temporary type of coating. Nevertheless, it is respectfully urged that no mention is made by Fydeler and/or Wyman of a fire retardant being present in a graft coating, or of a graft coating that imparts resistance to ignition. No reference or fact is of record to support the Examiner's conclusion. The Examiner is respectfully requested to make a reference, or fact, of record supporting the conclusion that fire retardancy is somehow described or inherent in any combination of the Fydeler and/or Wyman graft coated polymer film. If the Examiner's conclusion is based on personal knowledge, the Examiner is respectfully requested to make her personal knowledge of record in the form of a Declaration under 37 C.F.R. § 1.132.

For all of these reasons, it is respectfully urged that no *prima facie* allegation of obviousness has been made out by this rejection, and reconsideration and withdrawal of the rejection is respectfully requested.

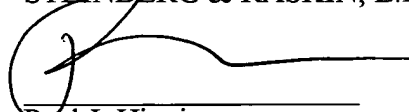
CONCLUSION

Applicants respectfully assert that they have obviated each and every one of the rejections and objections raised by the Examiner as a consequence of the action taken above. Accordingly, it is respectfully submitted that the pending claims are in condition for allowance. Reconsideration of the claims and early action to provide a Notice of Allowance is respectfully requested.

If the Examiner believes that an interview, either personal or telephonic, would advance the prosecution of this application, it is respectfully requested that he contact the undersigned.

Twenty dependent claims were cancelled and eighteen new dependent claims, and one independent claim have been added. For this reason, no fee for additional claims is believed to be required. If any additional fee is believed to be required for entry of this Amendment and Response, the Commissioner is authorized to charge any required fee to Deposit Account No. 50-0518 .

Respectfully submitted,
STEINBERG & RASKIN, L.L.P.



Paul J. Higgins
Reg. No. 44,152

Steinberg & Raskin, P.C.
1140 Avenue of the Americas
New York, New York 10036
Phone: 212-768-3800
Facsimile: 212-392-2124

APPENDIX I

Deletions to the above provided revised claims are indicated by brackets (“[]”) and insertions are indicated by underlining (“ ”).

1. (Amended) A graft coated substrate, the substrate comprising polyethylene, and a graft coating covalently bonded thereto, wherein said graft coating comprises a non-polyethylene polymer or copolymer and a flame retardant.
2. (Amended) The graft coated substrate of claim 1, wherein the graft coating comprises a non-polyethylene polymer or copolymer selected from the group consisting of a urethane, an epoxy, a polysilicone, and combinations or copolymers thereof.
3. (Amended) The graft coated substrate of claim 1 wherein the graft coating further comprises materials selected from the group consisting of a pigment or colorant, [a fire retarding agent], and combinations thereof.
34. (Amended) The [A solid polyethylene substrate comprising a] graft [coating] coated substrate of claim 1, [covalently bonded thereto,] prepared by [the] a process [of claim 13] comprising: applying a liquid composition to the substrate,
wherein the liquid composition comprises a monomer or prepolymer, a metal ion graft initiator, a peroxide catalyst, a polymerization promoter reactive with the monomer or prepolymer, and a flame retardant and
polymerizing the monomer or prepolymer to the substrate.
35. (Amended) An article of manufacture comprising [a graft coating covalently bonded thereto, prepared by] the [process] graft coated substrate of claim [13] 34 .